

What is Claimed is:

1. A golf ball comprising:
 - a core;
 - a thermoplastic inner cover layer disposed about the core, the inner cover layer having a Shore D hardness of at least 60 as measured on the curved
 - 5 surface thereof; and
 - an outer cover layer disposed on the inner cover layer, the outer cover layer having a Shore D hardness of no more than 55 as measured on the curved surface thereof;
 - wherein the golf ball exhibits a PGA compression of 100 or less and
 - 10 a coefficient of restitution of at least 0.770.
2. The golf ball according to claim 1, wherein the inner cover layer comprises a composition including at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed
- 15 polyolefins, and blends thereof.
3. The golf ball according to claim 2, wherein the inner cover layer comprises ionomer.
4. The golf ball according to claim 1, wherein the outer cover layer
- 20 comprises a composition including at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof.

5. The golf ball according to claim 4, wherein the outer cover layer comprises a composition including at least one material selected from the group consisting of ionomers, polyurethanes, and blends thereof.

6. The golf ball according to claim 5, wherein the outer cover layer comprises polyurethane.

7. The golf ball according to claim 4, wherein the outer cover layer has a flex modulus of from about 1,000 to about 10,000 psi.

8. The golf ball according to claim 7, wherein the outer cover layer has a Shore D hardness of from about 30 to about 53.

9. The golf ball according to claim 1, wherein the golf ball exhibits a coefficient of restitution of at least 0.780.

10. A golf ball comprising:
a core;
an inner cover layer disposed on the core, the inner cover layer having a Shore D hardness of at least 60 as measured on the curved outer surface thereof, and including at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof; and
an outer cover layer disposed about the inner cover layer, the outer cover layer having a Shore D hardness of no more than 55 as measured on the curved surface thereof;
wherein the golf ball having a spin factor of at least about 5, a PGA compression of 100 or less, and a coefficient of restitution of at least 0.770.

11. The golf ball according to claim 10, wherein the outer cover layer comprises at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof.

5 12. The golf ball according to claim 10, wherein the outer cover layer comprises ionomer.

13. The golf ball according to claim 10, wherein the outer cover layer comprises polyurethane.

10 14. The golf ball according to claim 10, wherein the golf ball exhibits a spin factor of at least 8.

15 15. A golf ball comprising:
an inner ball, the inner ball comprising a core and an inner cover layer disposed about the core, the inner ball having a coefficient of restitution of at least 0.780; and
an outer cover layer disposed about the inner ball, the outer cover layer having a Shore D hardness of no more than 55 as measured on the curved surface thereof;
wherein the golf ball exhibits a coefficient of restitution of at least 0.770 and a PGA compression of 100 or less.

20 16. The golf ball according to claim 15, wherein the inner cover layer of the inner ball comprises at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof.

17. The golf ball according to claim 15, wherein the inner cover layer of the inner ball exhibits a Shore D hardness of at least 60.

18. The golf ball according to claim 15, wherein the outer cover layer
5 comprises at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof.

19. The golf ball according to claim 18, wherein the outer cover layer
10 comprises at least one of a thermoset polyurethane, a thermoplastic polyurethane, and combinations thereof.

20. The golf ball according to claim 19, wherein the outer cover layer comprises a reaction injection molded polyurethane.

21. The golf ball according to claim 18, wherein the outer cover layer has
15 a Shore D hardness of from about 30 to about 55.

22. A golf ball comprising:
a core;
an inner cover layer disposed about the core, the inner cover layer
20 having a Shore D hardness of at least 60 as measured on the curved surface thereof and comprising at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof; and
25 an outer cover layer disposed about the inner cover layer, the outer cover layer having a Shore D hardness of no more than 55 as measured on the curved surface thereof and comprising a material selected from the group

consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof;

wherein the golf ball exhibits a PGA compression of 100 or less and
5 a coefficient of restitution of at least 0.770.

23. The golf ball according to claim 22, wherein polyurethanes include thermoset and thermoplastic polyurethanes.

24. The golf ball according to claim 23, wherein the polyurethane is a reaction injection molded polyurethane.

10 25. The golf ball according to claim 22, wherein the outer cover layer has a Shore D hardness of from about 30 to about 55.

26. The golf ball according to claim 22, wherein the golf ball has a spin factor of at least 5.0.